

In the Claims:

1 -6. (canceled)

7. (original) A compact voltage changer, preferably for portable timepieces and devices, containing direct voltage source, unipolar transistor functioning as a disconnecting piece, step-up transformer, micro controller, rectifier and filter of the output voltage, with the distinction that, as a threshold element being installed in the primary winding of the transformer is connected to the micro controller while micro controller data bus is connected to unipolar transistor base.

8. (original) A compact voltage changer, preferably for portable timepieces and devices as claimed in claim 7, with the distinction that, as a pulse former of signal detector is connected with its inlet to radiation detector and with its outlet to micro controller.

9. (new) A portable watch comprising

a case;

a power supply unit in said case;

a micro controller in said case operatively connected to said power supply unit for receiving power therefrom;

a timekeeping and time indicating unit in said case operatively connected to said micro controller for operation thereby;

a Geiger-Muller counter in said case for detecting radiation and for delivering corresponding signals to said micro controller for calculation of an effective radiation dose therein;

a voltage pulse converter connected between said micro controller and said Geiger-Muller counter for transforming a low voltage from said micro controller into a constant high voltage for transmission to said Geiger-Muller counter; and

a pulse former connected to and between said Geiger-Muller counter and said micro controller for converting impulses from said Geiger-Muller counter into predetermined shapes for processing in said micro controller.

10. (new) A portable watch as set forth in claim 9 further comprising a switch key operatively connected to and between said micro controller and said Geiger-Muller counter for periodically switching said Geiger-Muller counter on and off for measuring of radiation intensity in a gating mode in response to a signal from said micro controller.
11. (new) A portable watch as set forth in claim 9 further comprising a second power supply unit in said case operatively connected to said timekeeping and time indicating unit for operation thereof independently of said micro controller.
12. (new) A portable watch as set forth in claim 9 wherein said pulse former has an inlet connected to a low-voltage side of a power supply filter capacitor of said Geiger-Muller counter and an outlet connected to said micro controller.
13. (new) A portable watch as set forth in claim 9 wherein said voltage pulse converter includes a transformer having a primary winding operatively connected to said micro controller and a secondary winding connected to a cathode of said Geiger-Muller counter for applying a reference voltage to said cathode.

14. (new) A portable watch as set forth in claim 13 further comprising a switch key operatively connected to and between said micro controller and said primary winding of said transformer, a threshold device operatively connected to and between said primary winding and said micro controller and a rectifier having a filter operatively connected to and between said secondary winding and said cathode of said Geiger-Muller counter for passing voltage to said cathode.
15. (new) A portable watch as set forth in claim 9 further comprising a display section on said case for displaying an indication of the accumulated radiation dose.
16. (new) A method of operating a Geiger-Muller counter comprising the steps of
delivering a control pulse of direct current of low voltage from a micro controller to an electronic switch key movable between an open position and a closed position thereof;
accumulating energy from a power unit in a primary winding of a transformer with the switch key in said open position thereof;
delivering an impulse signal from a Geiger-Muller counter to the micro controller in response to detection of radiation thereby;
delivering an additional control impulse from the micro controller to the switch key in response to said impulse signal from the Geiger-Muller counter;
comparing the return impulse voltage at the primary winding of the transformer with a predetermined value in a threshold element with the switch key in said open position and moving the switch key to said closed position in response to said return impulse voltage exceeding said predetermined value;
and

delivering energy from a secondary winding of the transformer in response to the switch key moving to said closed position to a rectifier having a filter for rectification, stabilization and filtering thereof; and

delivering the rectified, stabilized and filtered energy from the rectifier to an anode of the Geiger-Muller counter to operate the Geiger-Muller counter.